

APPLICATION FOR A RULING ON THE AVAILABILITY OF
FIVE SPECIFIC NAMES PROPOSED AS NEW FOR THE GENUS
HETERODERA A. SCHMIDT, 1871 (NEMATODA) IN
"A PRELIMINARY KEY TO BRITISH SPECIES OF *HETERODERA*
FOR USE IN SOIL EXAMINATION" BY B. A. COOPER, 1955.
Z.N.(S.) 2066

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In 1955, in his paper "A preliminary key to British species of *Heterodera* for use in soil examination", B. A. Cooper introduced five new specific names in the genus *Heterodera* A. Schmidt, 1871. The species concerned are *Heterodera bifenestra*, *H. limonii*, *H. methwoldensis*, *H. polygoni* and *H. urticae*. They are mentioned in the key and in the text, and in some cases, sketches of part of one stage of the life history are included but full descriptions, differential diagnoses and the naming of type-specimens and type-localities are absent. Wherever these specific names are mentioned they always appear in quotes e.g. on page 273, lines 9-10, "At cyst formation, the fenestra in *H. major*, *schachtii*, *trifolii*, *galeopsidis*, and '*limonii*' appears to be membranous . . .".

Some nematologists have not accepted these names (e.g. Hesling, 1965) while others have accepted them and provided more detailed descriptions (e.g. Pogosyan, 1962 and Mathews, 1970 for *H. urticae* and Kir'janova & Krall, 1971 for *H. bifenestra*). So far as I am aware no further descriptions of *H. limonii*, *H. methwoldensis* and *H. polygoni* have been published.

I believe that Cooper's publication may not meet the requirement for description of new species, if so the five species names as published in 1955 are unavailable. The later descriptions of *urticae* and *bifenestra* published by the other authors are adequate except that type-specimens are not designated. Pogosyan (1962) commented that Cooper had designated a new *Heterodera* species *H. urticae* but that a full description and differential diagnosis were absent and gave a description of "*Heterodera urticae* Cooper, 1955" based on material collected in Armenia. Mathews (1970) also provided a full description using Cooper's material. Mathews pointed out that differences exist between the nematode described by Pogosyan and that called *H. urticae*" by Cooper. In fact the differences between the two descriptions are substantial and include a number of characters considered to be of importance in the differentiation of species in this genus (notably body and stylet length of second stage larvae, the position of the dorsal oesophageal gland duct junction in second stage larvae and the fenestration of the cysts). From her description Pogosyan's material seems close to that of *H. humuli* Filipjev, 1934 but she states that it differs from the latter species in having smaller eggs and cysts. In fact the morphometrics in Pogosyan's account fall within the ranges reported in the literature for *H. humuli* (notably by Franklin, 1951, Simon, 1958, De Grisse and Gillard, 1963, and Sen and Jensen, 1967) and the cyst fenestration also resembles that of *H. humuli*. Pogosyan does however

report hosts for this nematode which have not been reported elsewhere for *H. humuli* or *H. urticae*. Apparently Pogosyan's description is of material properly called *H. humuli* and is not the same nematode referred to by Cooper and Mathews as *H. urticae*.

In a letter to me of 6th March 1974, Mr. R. V. Melville made the following points: "The date of the paper is certainly important, since it is only after 1960 that names proposed conditionally (as these are) are unavailable under the Code (see Article 15). In my view (though I admit that there is room for other views), the names ought to be treated as unavailable for the following reasons:

1. The author states on page 276 that the names are proposed conditionally and may not be those adopted in the "ultimate description". It therefore follows that he did not consider his 1955 publication as sufficient to make the names available.

2. The editor, Dr. Kevan, himself no mean nomenclaturist, says in a footnote to page 276 that the names should not, in fact, be regarded as having any nomenclatorial status as of that date (1955).

3. It is therefore possible to consider that the names were "proposed for other than taxonomic use" in 1955 (namely, as temporary and provisional means of reference). As such, they would be excluded under Article 1 of the Code.¹

4. The author's reference to an "ultimate description" suggests that he does not consider his 1955 paper as satisfying the requirements of Article 13 (a)(i). This provision is a fruitful source of controversy: in effect it throws on the individual zoologist the responsibility of observing the highest standards of descriptive work practised in his group. I am therefore guessing here at what was in the author's mind. I think that in some groups a key would be thought to be just the kind of thing to satisfy that provision".

In Mr. Melville's view therefore, the names in question become available only when they have been made so by later authors; and they should be cited with those authors and the dates of the work in question, not with "Cooper, 1955".

Therefore, the International Commission on Zoological Nomenclature is formally requested to:

- (1) to use its plenary powers to suppress the name *urticae* Pogosyan, 1962 for the purposes of both the Law of Priority and for the Law of Homonymy;
- (2) declare that the specific names *bifenestra*, *limonii*, *methwoldensis*, *polygona*, and *urticae* as published in the binomina *Heterodera bifenestra*, *Heterodera limonii*, *Heterodera methwoldensis*, *Heterodera polygona* and *Heterodera urticae* in the paper by B. A. Cooper, 1955 "A preliminary key to British species of *Heterodera* for use in soil examination", pages 269-280, in D. K. McE. Kevan (Ed.) *Soil Zoology, Proceedings of the University of Nottingham Second Easter School in Agricultural Science*, Butterworths, are not available for use in

¹ See Sabrosky, C. W. (1972, *Bull. zool. Nomencl.* **29** : 131-134).

zoological nomenclature, by reason of the fact that they were not proposed for taxonomic use;

- (3) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *urticae* Mathews, 1970 as published in the binomen *Heterodera urticae*;
 - (b) *bifenestra* Kir'yanova & Krall, 1971, as published in the binomen *Heterodera bifenestra*;
- (4) to place:
 - (a) the specific name *urticae* Pogosyan, 1962, suppressed under the plenary powers in (1) above, and published in the binomen *Heterodera urticae* on the Official Index of Rejected and Invalid Specific Names in Zoology, and
 - (b) the names declared unavailable in (2) on the Official Index of Rejected and Invalid Specific Names in Zoology.

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